

The price of cleanliness

Oct 22nd 2009

From The Economist print edition

China is torn between getting greener and getting richer

THE Taiyanggong Thermal Power Plant in north-east Beijing is delightfully green. Unlike most of China's smoke-belching power stations, it has such low emissions that luxury flats are being built next to it. They are fetching high prices. Owners will look out over something that looks more like a cluster of office buildings (apart from a couple of grey chimneys) than a power plant. The cooling towers, near a grove of date trees and an ornamental pool, look a bit like the Great Wall.

With the help of two natural-gas-fuelled turbines built by America's General Electric, Taiyanggong produces only half the carbon emissions of a coal-burning facility of comparable size in China. It also generates much less smog-forming nitrogen oxide. Its steam supplies heat to 1m homes. When Hillary Clinton visited the power station in February, she called it a "wonderful collaboration" between China and America in clean-energy production. "We need to figure out ways to do more and more of this," Mrs Clinton said. That is where the problems begin.

The Beijing authorities built Taiyanggong to impress the world in the run-up to the Olympic games which opened in the city in August 2008—on the same day that America opened a new embassy in Beijing (heated, American officials say proudly, by Taiyanggong). Some 5,000 workers toiled night and day to deliver on the Chinese government's promise to provide an environmentally friendly power source for the games. Taiyanggong was connected to the grid with nearly eight months to spare.

Money was no object. It was clear that natural gas would be considerably more expensive than coal, the fuel used by most power plants, and American-made state-of-the-art turbines would be far costlier than those made at home. Maintaining the GE machinery would keep running costs high for years to come. But the government was in a high-spending mood, pouring about \$40 billion into an infrastructure makeover for the games.

Now the power station's owners, led by a municipal state-owned company, are struggling to make it work financially. Luckily for them, Taiyanggong has qualified for funding under the UN's Clean Development Mechanism (CDM), which enables rich countries to offset carbon emissions by paying for carbon cuts in developing ones. Zhang Yandong, a senior manager at the plant, says it will receive about 80m yuan

(\$12m) in CDM money this year. Even with this, he says, the plant will at best break even. A CDM project report estimates that it costs 50% more to generate electricity at a plant like Taiyanggong than it does at an equivalent coal-fired facility.

But American officials hope this will change, and that co-operation on climate change will even help strengthen the relationship overall. At the UN in September Mr Obama said America was "determined to act" on climate change. When he visits China next month, the topic will be the centrepiece. He is likely to secure an agreement on greater co-operation over clean-energy development between the two countries. He might even prise out of Mr Hu what he meant when he spoke of a "significant cut" in China's carbon intensity (the amount of carbon emitted per unit of GDP) by 2020.

But even if Mr Hu and Mr Obama appear in broad agreement on what needs to be done, persuading politicians and the public in both countries will not be easy. China has set impressive targets but struggles with ill-motivated bureaucrats. In America even lacklustre climate-change legislation now before Congress could founder as Mr Obama devotes political energy to what he clearly sees as a higher priority: health-care reform.

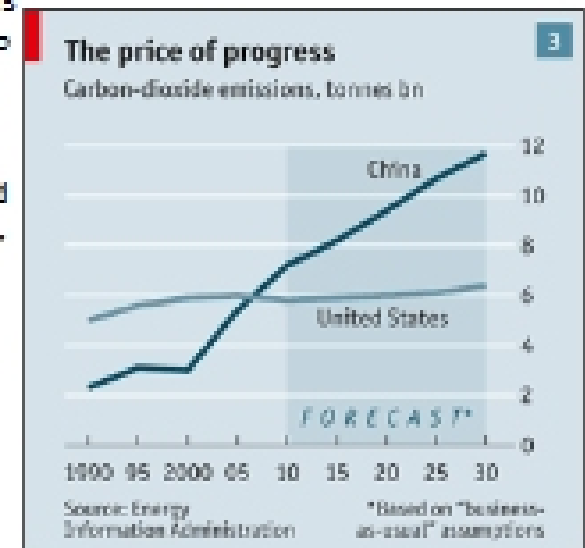
The road to Copenhagen

In Beijing the two presidents will avoid airing public doubts about each other's countries' fitness for the task. If China and America—the world's two biggest greenhouse-gas polluters, which between them account for 40% of the world's carbon-dioxide emissions—are seen to be in accord, their officials reckon, there will also be a better chance of agreement at the UN climate conference in Copenhagen in December. That meeting is meant to come up with a successor to the Kyoto protocol of 1997, a treaty on cutting carbon emissions that Congress never ratified.

Securing vague agreements will be the easy part. Having recently overtaken America as the world's biggest carbon emitter (see chart 3), China is anxious not to be singled out as the main obstacle to climate-change prevention. To China's leaders, image counts for a lot. China will cling to the view (shared by most developing countries) that the developed world bears the main responsibility for dealing with the problem. But it is also keen to co-operate. Cutting the growth of its carbon emissions happens to fit well with China's longstanding campaign to use energy less wastefully and reduce its dependence on imported oil (see chart 4). If the rich world, through CDM arrangements, can help China achieve that, so much the better.

What China will want in return is lots of money. Unfortunately for its environment, coal is plentiful and cheap. About 70% of China's electricity supply comes from coal-fired power stations. So the question is how fast China can introduce technologies to reduce carbon emissions from coal-burning, or else replace coal with cleaner forms of energy, both of which will be expensive. China will demand that developed countries foot the bill and also help provide the technology.

This will be hard for Mr Obama to sell to Congress.



Politicians will worry about how to monitor China's success in achieving its targets. China pledged in 2006 to reduce the amount of energy used per unit of GDP by 20% by the end of this decade. Officials say the country is on track to achieve this. But stimulus spending is flowing into energy-burning industries. In the pursuit of growth local governments are even less inclined to take energy-saving targets seriously. And verifying whether China is meeting its energy targets will be hard. For China to measure its carbon emissions and for America to be satisfied with the results will be even harder. Even a pledge for emissions to peak by 2035 will not go down well in America. Kenneth Lieberthal of the Brookings Institution says China will be under pressure to make it earlier, perhaps 2020 or 2025.

Technology transfer will also be a thorny issue. China resents the idea of American clean-energy companies taking advantage of China's predicament to profit from their expertise. But American companies will not be keen to hand over advanced technologies without adequate protection for their intellectual-property rights. China's lack of attention to this area is bitterly resented by many American businesses, not just high-tech ones.

American climate-change experts say there are grounds for optimism that China will do its best. The country's leaders, they say, are beginning to appreciate how much of a threat climate change poses to China itself. It has taken a while to convince them. In a country where every year hundreds, if not thousands, of people die in natural disasters, crops are devastated by droughts and millions of peasants migrate to cities, the extra disruption and loss of life that global warming might cause have not seemed like pressing concerns. But Mr Lieberthal says leaders now worry that climate change could pose a serious additional threat to stability. For a party that places stability above everything else, this could be a clincher.

China will enjoy the *Schadenfreude* of watching Mr Obama's struggle with a recalcitrant democracy. The climate-change legislation now before Congress has little chance of being passed by the Senate before the Copenhagen conference even though it was watered down as it passed through the House of Representatives. This will make it difficult for America to claim the moral high ground at Copenhagen. China may even garner more praise.

Whatever accord is reached at Copenhagen, scepticism will still be rife in America about China's intentions, and in China about America's willingness to provide the money and technology. At a time when trade friction between China and America is growing, such misgivings could lead to more shouting matches. The climate-change bill threatens to impose carbon tariffs on countries that are deemed not to be doing enough. China will rightly argue that it is doing a lot, but it will worry that Americans will not see it that way.

Mr Hu will also have to watch his own back. Just as in America, implementing carbon-emissions cuts will upset powerful interest groups: fossil-fuel-energy producers, for one. Unless the West, including America, is prepared to help out on a large scale, he will be under pressure to go slow. His decisions on climate change will be a clue to whether domestic or global interests take priority.

Like Mr Obama, he will vacillate. Copenhagen is likely to be just the beginning of a long, hard, struggle between the two countries over what the other is doing. An often defensive and secretive Chinese bureaucracy up against a bewilderingly complex mishmash of competing interests in America will not make for harmony.

